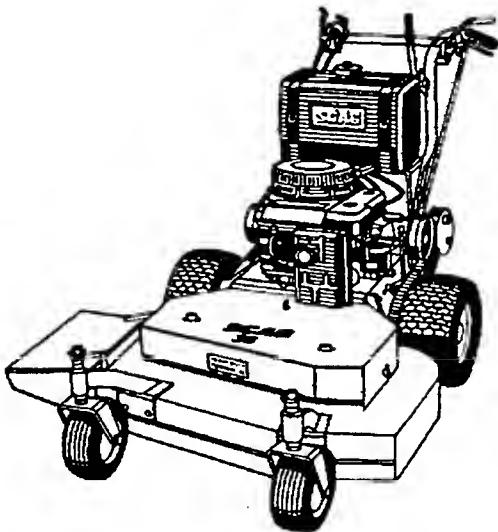


SCAG®

BELT DRIVE COMMERCIAL MOWER TECHNICAL MANUAL



MODELS

SW32-13KA
SW36-13KA
SW36-13KH
SW48-14KA
SW48-14KH

SW-14KA
SW-14KH
SW-16BV
SW-18KH
SW-18KHE

SWM-52
SWM-61
SWM-72

PATENT NO. 4,885,903

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SAFETY INSTRUCTIONS

Your mower is only as safe as the operator! As with any type of power equipment, carelessness or error on the part of the operator may result in serious bodily injury. In addition, improper maintenance of the machine can also result in injury. To reduce the potential for injury, please read and follow these instructions on safe operation and be certain that anyone using this mower fully understands and complies with the following instructions.

BEFORE OPERATING

1. Read and understand the contents of this Technical Manual before operating the machine. Become familiar with all controls and know how to stop quickly. A free replacement manual is available by sending complete Model and Serial Number to:
Scag Power Equipment, Inc.
1000 Metalcraft Drive
Mayville, WI 53050
2. Do not allow children to operate the machine. Do not allow adults to operate the machine without proper instruction.
3. Before attempting to start engine, shift transmission into neutral, move blade clutch lever into STOP position and move neutral latches to NEUTRAL LOCK.
4. Remove all debris or other objects that might be picked up and thrown by the cutter blades. Keep all bystanders away from the mowing area.
5. Keep all shields, safety devices, and decals in place. If a shield, safety device or decal is defective or damaged, repair or replace it before operating. Also, tighten all loose nuts, bolts and screws to assure machine is in safe operating condition.
6. Do not operate machine while wearing sandals, tennis shoes, sneakers or shorts. Also, do not wear loose fitting clothing which could get caught in moving parts. Always wear long pants and substantial shoes. Wearing safety glasses and safety shoes is advisable and required by some local ordinances and insurance regulations.
7. Fill fuel tank with gasoline before starting the engine. Avoid spilling gasoline. Since gasoline is flammable, handle it carefully.
 - A. Use an approved gasoline container.
 - B. Do not fill tank while engine is hot or running.
 - C. Do not smoke while handling gasoline.
 - D. Fill fuel tank outdoors and up to about one inch (25 mm) below the bottom of the filler neck.
 - E. Wipe up any spilled gasoline.

WHILE OPERATING

8. Start engine when neutral latches are in neutral lock position, cutter blades are disengaged, and transmission is in neutral.
9. Do not run the engine in a confined area without adequate ventilation. Exhaust fumes are hazardous and could possibly be deadly.
10. Using the machine demands attention. To prevent loss of control:
 - A. Mow only in daylight or when there is good artificial light.
 - B. Watch for holes or other hidden hazards.
 - C. Do not drive close to a drop-off, ditch or creek bank or other hazard.
 - D. Reduce speed when making sharp turns and when turning on hillsides.
 - E. Always be sure of your footing. Keep a firm hold on the handles and walk---never run.
 - F. Do not operate where conditions are slippery.
11. The discharge chute must always be installed and in the down position on the side discharge cutting unit except when optional grass catcher or mulching plate are completely installed. If the cutting unit discharge should plug, shut engine off and wait for all movement to stop before removing obstruction.
12. Disengage the blades and wait for them to stop before crossing gravel drives, walks or roads.
13. Shut the engine off and wait until the blades come to a complete stop before removing the grass catcher container.
14. Never raise the cutting unit while the blades are rotating.
15. If the cutting blades should strike a solid object or the equipment should start to vibrate abnormally, stop the engine, disconnect the spark plug wire, and check immediately for the cause. Vibration is generally a warning of trouble. Check the cutting unit and traction unit for damaged or defective parts. Repair any damage before starting the engine and operating the cutter unit. Be sure blades are in good condition and blade bolts are tight.
16. Always park the mower and/or start the engine on a level surface. If this is not possible, block the wheels to prevent the mower from moving when you are not in the operator's position.
17. Cut grass slopes carefully. Do not start, stop or turn suddenly. Mow across the face of slopes; never up or down. Do not mow excessively steep slopes.

SAFETY INSTRUCTIONS CONT'D

18. Do not touch engine or muffler while engine is running or soon after it is stopped. These areas could be hot enough to cause a burn.
19. Before leaving the operator's position or leaving mower unattended, shift transmission into NEUTRAL, place neutral latches in NEUTRAL LOCK position, move cutter blade engagement lever to STOP and shut OFF engine.
20. Do not pass or stand on the grass discharge side of any mower with the engine running. Stop operation when another person approaches.

MAINTENANCE AND STORAGE

21. Disconnect high tension wire from spark plug to prevent accidental starting of the engine when servicing, adjusting or storing the machine.
22. If mower must be tipped to perform maintenance or adjustment, remove battery, drain gasoline from fuel tank and oil from crankcase.
23. To reduce potential fire hazard, keep the engine free of excessive grease, grass, leaves and accumulations of dirt.
24. Be sure machine is in safe operating condition by keeping nuts, bolts, and screws tight. Check the blade mounting bolts and nuts frequently to be sure they are tightened.
25. If the engine must be running to perform a maintenance adjustment, keep hands, feet, clothing and other parts of the body away from the cutter deck blades and other moving parts.
26. Do not overspeed the engine by changing governor settings. To be sure of safety and accuracy, have an authorized dealer check maximum engine speed with a tachometer.
27. Engine must be shut off before checking oil or adding oil to the crankcase.
28. Allow engine to cool before storing mower in any enclosure such as a garage or storage shed. Make sure the mower fuel tank is empty if machine is to be stored in excess of 30 days. Do not store mower near any open flame or where gasoline fumes may be ignited by a spark.
29. Always store gasoline in a safety-approved, red container.
30. Keep the mower and fuel container in locked storage to prevent children from playing and tampering with them.

31. Perform only those maintenance instructions described in this manual. If major repairs are ever needed or assistance is desired, contact an Authorized Scag Dealer. To ensure optimum performance and safety, always purchase genuine SCAG replacement parts and accessories. NEVER USE "WILL-FIT" replacement parts and accessories made by other manufacturers. Using unapproved replacement parts and accessories may void the warranty.
32. Be careful when servicing the battery as it contains acid, which is corrosive and could cause burns to skin and clothing.
33. Batteries release explosive gases when being charged or discharged. KEEP away from any source of sparks and/or flame.

ASSEMBLY INSTRUCTIONS

ELECTRIC START UNITS ONLY!

Before proceeding with assembly, prep the battery. Fill each cell with electrolyte until the top of the plates are covered. Charge the battery at 3 to 4 amps for 4 hours (this insures a good initial charge), check and add electrolyte as needed to bring the fluid level to the bottom of the split ring. Then wash and dry off the battery.

NOTE: Once the above fill and charge procedure has been completed only distilled water should be added to the battery cells.

Set the battery into the support, connect the positive cable to the positive post, then connect the negative cable to the negative post. Put the battery cover in place (at the back of the battery), and clamp the battery into place (finger tight) using the carriage bolts and wing nuts. DO NOT OVER TIGHTEN.



WARNING: Severe chemical burns can result from improper handling of battery electrolyte. Use proper eye, skin and clothing protection to prevent contact with eyes, skin and clothing.

External contact: Flush with water.

Internal contact: Drink large quantities of water, followed by milk of magnesia, beaten egg or vegetable oil.

CALL A PHYSICIAN IMMEDIATELY!

IMPORTANT - In case of internal contact DO NOT give fluids that would induce vomiting.

Eye contact: Flush with water for at least 15 minutes and **GET MEDICAL ATTENTION IMMEDIATELY!**

ASSEMBLY INSTRUCTIONS CONT'D

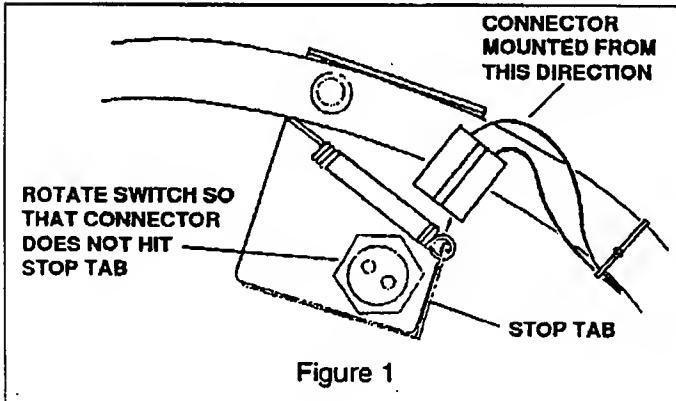
WARNING: Explosive gases are vented from a battery when being charged or discharged which could explode if exposed to a flame or spark.

SET-UP ALL UNITS

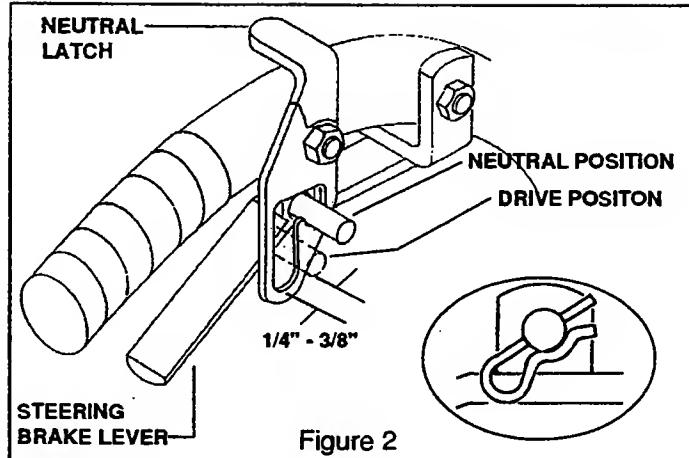
1. Lay out hardware according to the "Where Used" list in the loose parts packing list.
2. Install handle assembly to handle mounting frame using four 3/8-16 x 1" bolts, flat washers, and elastic stop nuts. Three different handle heights can be obtained using one of the three slotted holes in the handle mounting frame.
3. Route the throttle control above the RH jackshaft and up the right side of handle. Secure to handle with 1/4-20 x 2" hex head bolt and elastic stop nut. Secure cable about half way down the handle using a cable tie.

NOTE: Check that the throttle cable moves the carburetor controls through their full range. If not, adjust as required.

4. Route the operator presence interlock wires up the left handle tube and attach the connector to the switch as shown. Be certain that the connector does not hit the safety lever stop tab, if it does, rotate the switch to the position shown (see figure 1).



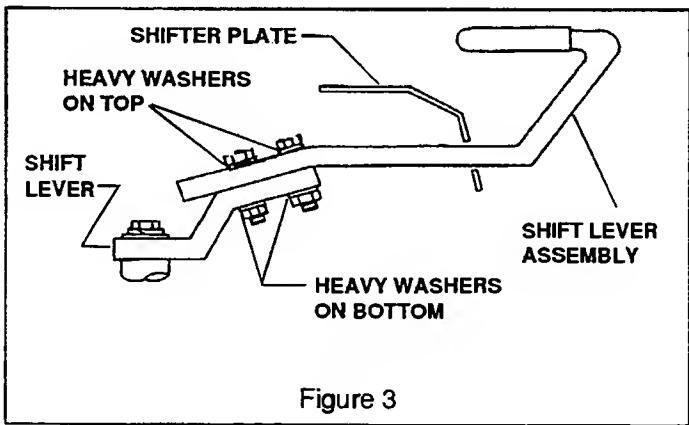
5. Installing control rods.
 - a) Thread rods into the swivel joints that are attached to the idler brackets on each side of the unit.
 - b) Adjust the rods so that there is about a 1/4"-3/8" clearance to the bottom of the neutral latch slot when in the drive position. Secure with small hair pin cotter as shown (see figure 2)



- c) Adjust brake rods so the brakes lock when the steering levers are pulled all the way up.

NOTE: Rods must allow neutral latches to be moved to the neutral position. (see figure 2)

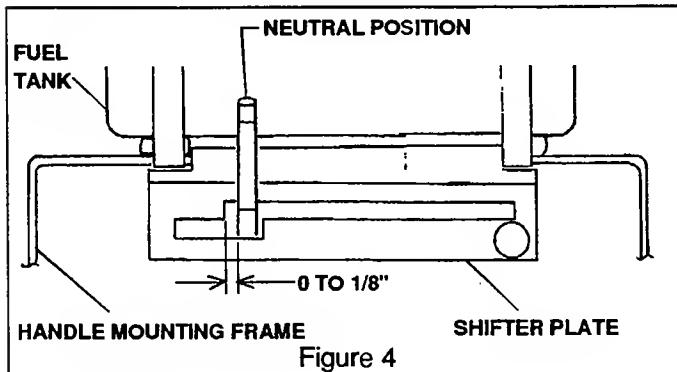
6. Attach shift lever assembly as shown (see figure 3) on top of the short lever that is bolted to the transmission using two 5/16-18 x 1" bolts, flat washers, lock washers and hex nuts. Two heavy flat washers should be inserted above the shift lever and two inserted below.



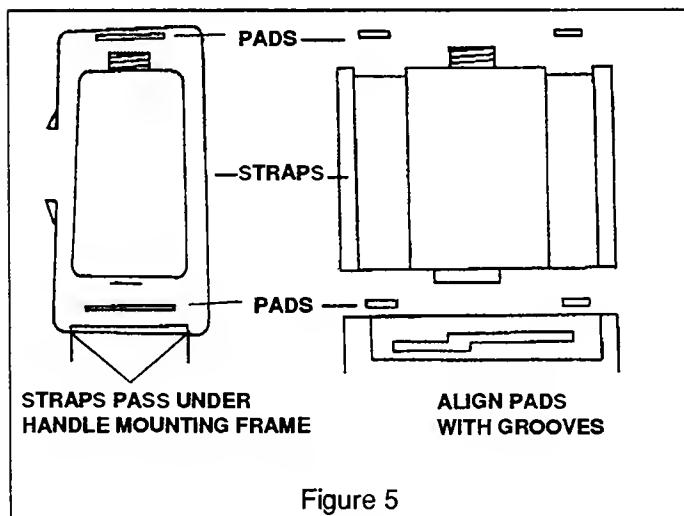
7. The shift lever should be adjusted so that the shift lever assembly is 0 to 1/8" away from the stop when the transmission is in neutral (see figure 4). Tighten nuts securely.

NOTE: Engine will not start if transmission is not in neutral.

ASSEMBLY INSTRUCTIONS CONT'D

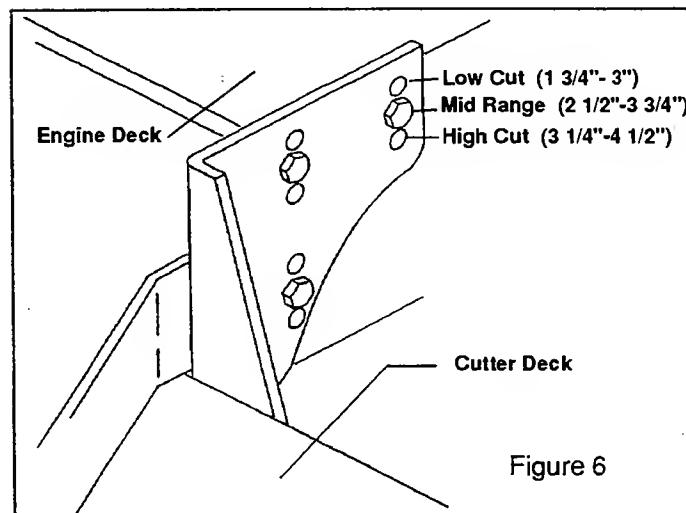


8. Attach fuel tank (See figure 5) as follows:
 - a) Wrap the straps around the fuel tank to pre-form them, then set aside to be used later.
 - b) Position the four rubber pads on the gas tank with two 1/4" thick pads in the strap grooves on top and two 3/8" pads with adhesive bottoms in the strap grooves between the gas tank and handle mounting frame. Attach the adhesive side of the bottom two pads to the handle mounting frame.
 - c) Position the tank so the SCAG logo is forward. Place the straps around the tank going under the handle mounting frame, secure the strap together in front using (2) two 1/4-20 x 2" slotted machine screws and hex nuts. Tighten screws until the tank will not slide around. Over tightening will damage the tank or straps.
 - d) Attach the fuel line to the valve on the bottom of the tank.



ATTACHING SWM-52, SWM-61, SWM-72 TO ENGINE DECK

- a) Before beginning, determine which mounting holes are to be used to best suit the cutting height requirements of your customer. (see figure 6).



- b) Remove belt cover by loosening the wing nuts securing it to the cutter deck.
- c) Position the cutter deck so that the engine deck is between the mounting brackets of the cutter deck. Install two bolts through the mounting holes selected, secure loosely with a flat washer, lock washer and hex nut. Tilt the engine deck up or down to align the remaining four holes and secure with remaining hardware.
- d) Torque cutter deck mounting bolts to 50 to 70 ft. lbs..
- e) Route belt around engine pulley and tighten bolt on engine belt guide. Connect lower blade clutch control rod to eyebolt and over center link with flat washer and hair pin.
10. Attach discharge chute to cutter deck using two 5/16-18 x 1" bolt and elastic stop nuts. Tighten bolts on chute until chute moves freely with some resistance.
11. Attach caster wheels supports to cutter deck using four 5/16-18 x 3/4" bolts, lock washers and hex nuts.

NOTE: Check all hardware to be sure it is tightened properly, also check clearance and routing of drive belts.

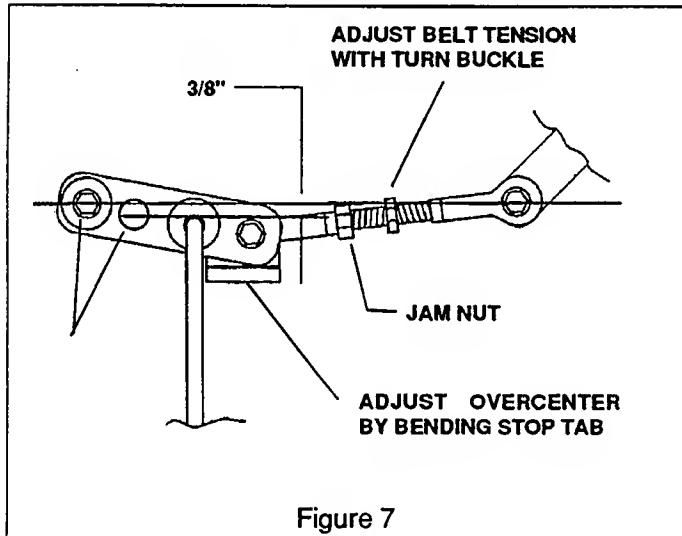
12. Check engine oil level and fill as is necessary. Add oil to the engine crankcase using type specified in engine operator's manual.
13. Fill fuel tank to about 1" below the fill neck with gasoline as specified in engine operator's manual.

ADJUSTMENTS

CUTTER DECK DRIVE ADJUSTMENTS

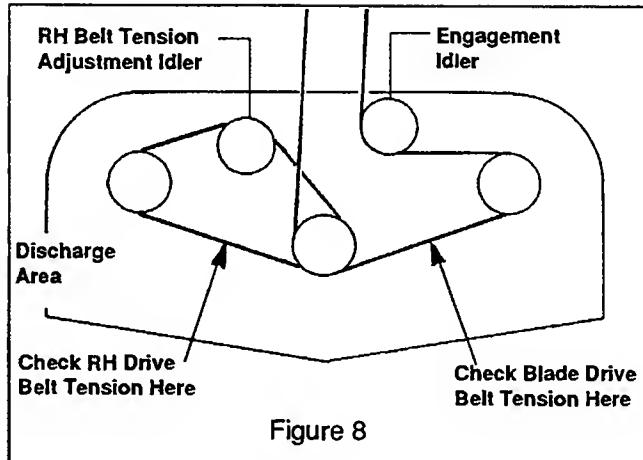
1. Engage blade clutch lever and check for proper over center clearance. There should be about $3/8"$ between rod and straight edge (see figure 7). Bend the stop tab to adjust clearance.

There are two holes drilled into the cam link that you can use for the bolt that secures the cam link to the mounting post welded to the deck. This will allow you to lengthen or shorten the engagement linkage to compensate for belt wear.



2. Adjust belt tension so that the belt moves $1/2"$ with 10 lbs. of pressure applied between the center and left spindle pulleys (see figure 8). Adjustment is made by loosening the jam nut and tightening/loosening the turn buckle (see figure 7). Belt driving right spindle should be checked the same way. Adjust with J-rod on RH belt tension adjustment idler.

NOTE: *Belt tension may need to be increased or decreased 1 to 2 lbs. to achieve lowest belt vibration.*



DRIVE CONTROLS

1. Steering control rods should have about $1/4"$ clearance between the bottom of the slot and the bottom of the rod when the steering levers are released (see figure 2).
2. The brake rods should be adjusted so that the brakes do not apply until the steering levers are pulled tight to the handles. When the steering levers are locked in the neutral position the unit may be pushed around.
3. The shift lever is adjustable, and can be moved right to left allowing proper positioning for neutral (See figure 4).

TRANSMISSION DRIVE BELT

Adjust the transmission drive belt so that there is about a $3/16"$ deflection with 10 pounds of pressure. Adjust by loosening idler pulley mounting bolt and sliding the idler left or right to change belt tension.

TIRE PRESSURES

Drive Wheel Tires	15 psi
Caster Wheels	25 psi

ADJUSTMENTS

GENERAL ADJUSTMENTS

1. Check that all belts clear their guides by $1/8"$ to $1/4"$.
2. Adjust tension of blade drive belt by rotating turnbuckle so that about 10 pounds pull sideways deflects belt about a $1/2"$. DO NOT OVERTIGHTEN. Only a moderate force should be required on the engagement lever.
3. Check tension of transmission drive belt (under engine deck). A ten pound pull sideways should deflect belt about $3/16"$. Slide idler pulley if required to adjust.
4. The tension of the two Twin Power Wheel Drive belts is self-adjusting. However, for adequate declutching, adjust length of steering control rods on each side of handle until about a $1/4"$ gap is provided between rod and bottom of neutral latch slot, when neutral latch is in drive position.
5. Adjust brake rods so that brakes will lock wheels while pulling machine rearward with steering levers fully squeezed. Check that machine rolls freely when neutral latches are in neutral lock position.

CUTTER DECK ADJUSTMENTS

Due to the many cutting conditions that exist, it is difficult to suggest a setting that will work for every lawn. There are two adjustments that can be made on these decks, pitch and height.

PITCH is the angle of the blades (comparing front to rear). A *positive pitch* is when the front (leading) edge of the cutting plane is lower than the rear (trailing) edge, *level pitch* is when both front and rear are the same height, a *negative pitch* is when the leading edge is higher than the rear edge. We suggest that a positive pitch be used when cutting grass. The front of the deck should be $1/4"$ to $1/2"$ lower than the rear of the deck.

HEIGHT is the nominal distance the blade is off of the ground. This measurement is made with the blades pointed side to side and distance is measured between cutting tip and ground.

TAPERED BEARING SPINDLE ASSEMBLY

Adjusting the blade height can be done by moving any number of the four smaller $1/4"$ spacers on the blade mounting bolts to the top of the spindle shaft or below the spindle shaft. (All blades should be positioned equally). The tapered bearing spindle has a large $1/4"$ spacer that is installed directly below the spindle housing and is secured to the spindle with two roll pins. The blade can be adjusted all the way up to the spindle assembly if all the smaller $1/4"$ spacers are removed and installed above the pulley. The larger $1/4"$ spacer can then be removed along with the roll pins. (Do not install the larger $1/4"$ spacer above the pulley, store it in a convenient location away from the machine). When any $1/4"$ spacers are installed above the blades the larger $1/4"$ spacer must be installed directly below the spindle housing. If a smaller $1/4"$ spacer is installed directly below the spindle housing and contacts the retaining ring this will cause a spindle failure and not be warrantable. For best cut and discharge, a minimum of three spacers should be installed between the blade and spindle. (see figure 10)

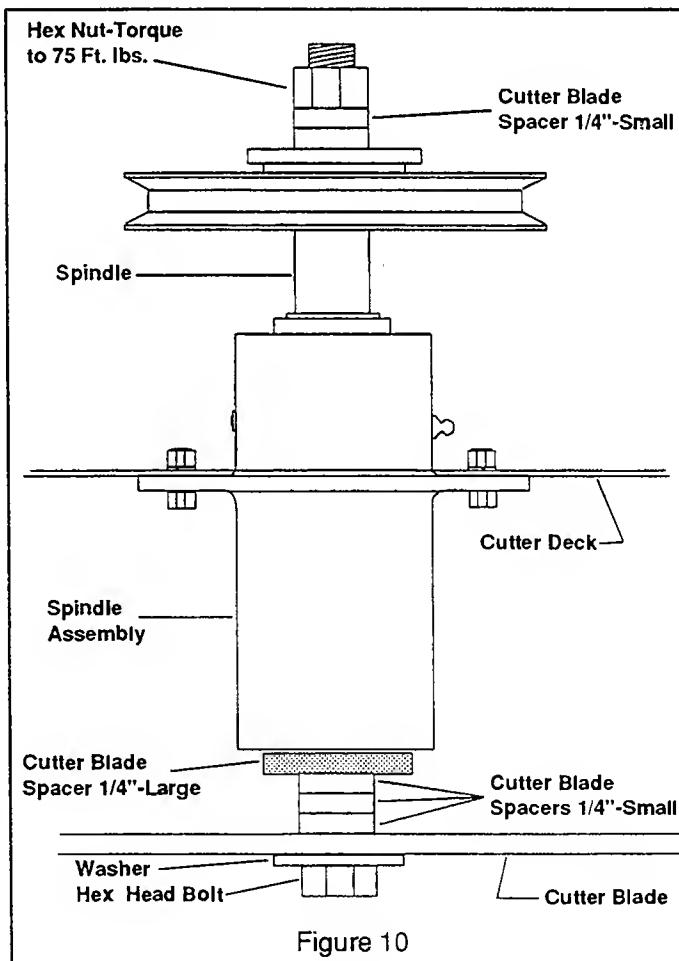


Figure 10

ADJUSTMENTS CONT'D

Additional range to the cutting height can be achieved by repositioning the cutter deck in relationship to the engine deck (This adjustment can also effect the pitch of the deck). There are 3 positions (see figure 6), suggested mounting is the middle holes. For cutting lower, mount the deck in the top holes. To cut higher, mount the deck in the bottom holes.

Remember to check the cutter deck belt alignment. Shimming or attaching the idler mounting bracket from underneath may be necessary to maintain belt life.

Caster spacers also can be repositioned to change cutting heights and to change the pitch of the deck (see figure 11).

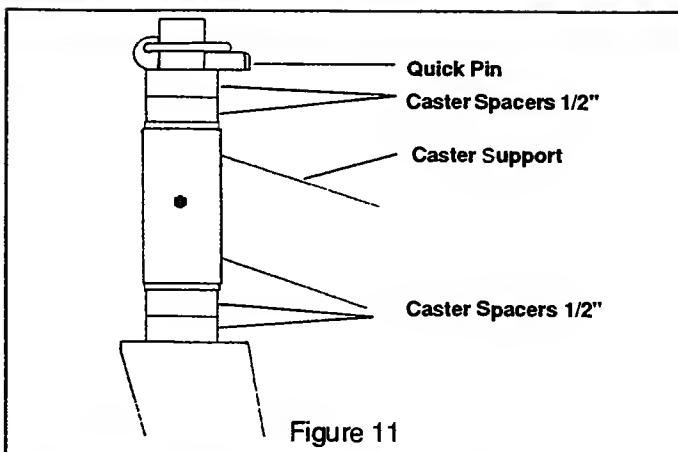


Figure 11

LUBRICATION & MAINTENANCE

BREAK-IN	
	8 HOURS (DAILY)
X	
X	
X	40 HOURS (WEEKLY)
X	
X	
X	
X	
X	100 HOURS (BIWEEKLY)
X	
X	
X	
X	
X	200 HOURS (MONTHLY)
X	
X	
X	
PROCEDURE	COMMENTS
Check all hardware for proper tightness Change engine oil and filter at 5 hours	
Check engine oil Remove debris from under belt cover Sharpen cutter blades Grease spindle bearings 2 pumps of hand gun Clean air filter	Do not over fill More often if needed More often if needed + US Lithium MP White Grease 2125 More often if needed
Check tire pressure Change engine oil	Add or adjust as required See engine mfg. information
Replace air filter Grease caster wheel bearings Grease caster wheel pivot shafts Grease idler pulley bracket pivot bearings Grease drive wheel bearings Grease traction idler pivot Grease idler bracket LH & RH	More often if needed Chassis grease Chassis grease Chassis grease Chassis grease Chassis grease Chassis grease Chassis grease
Grease brake lever pivot Grease transmission couplers Check all hardware for proper tightness	Chassis grease Chassis grease

+ Grease spindle until grease comes out the relief valve

INITIAL RUN-IN

⚠ WARNING: Use extreme caution during mower's initial run-in to assure caster wheels are adequately blocked and drive wheels do not inadvertently contact ground. Keep bystanders away from machine. Never allow mower to discharge towards bystanders. Never leave the machine unattended during the initial run-in.

1. Lubricate all fittings as specified in Lubrication Section.
2. Locate machine in a secure area, away from bystanders, and preferably facing a wall. Raise drive wheels off ground. Block caster wheels. Make sure area under cutter deck is clear of objects.
3. Start engine and shift transmission into fourth gear. Engage cutter blades. Set throttle for 3/4 of full engine rpm.
4. Run the machine for a few minutes.
5. Declutch cutter blades. Shift transmission into NEUTRAL. Stop engine.
6. Check tension of blade drive belt(s) and transmission drive belt. Adjust if necessary.
7. If necessary, readjust steering control and brake rods as indicated in the Adjustments Section.
8. Check function of all safety interlocks. Make sure that engine will not start unless transmission is in neutral and blade clutch is disengaged.
9. Check tire pressure and adjust to:

Caster Wheels	25 psi.
Drive Wheels	15 psi.

YOU ARE NOW READY TO MOW WITH CONFIDENCE!

OPERATING INSTRUCTIONS

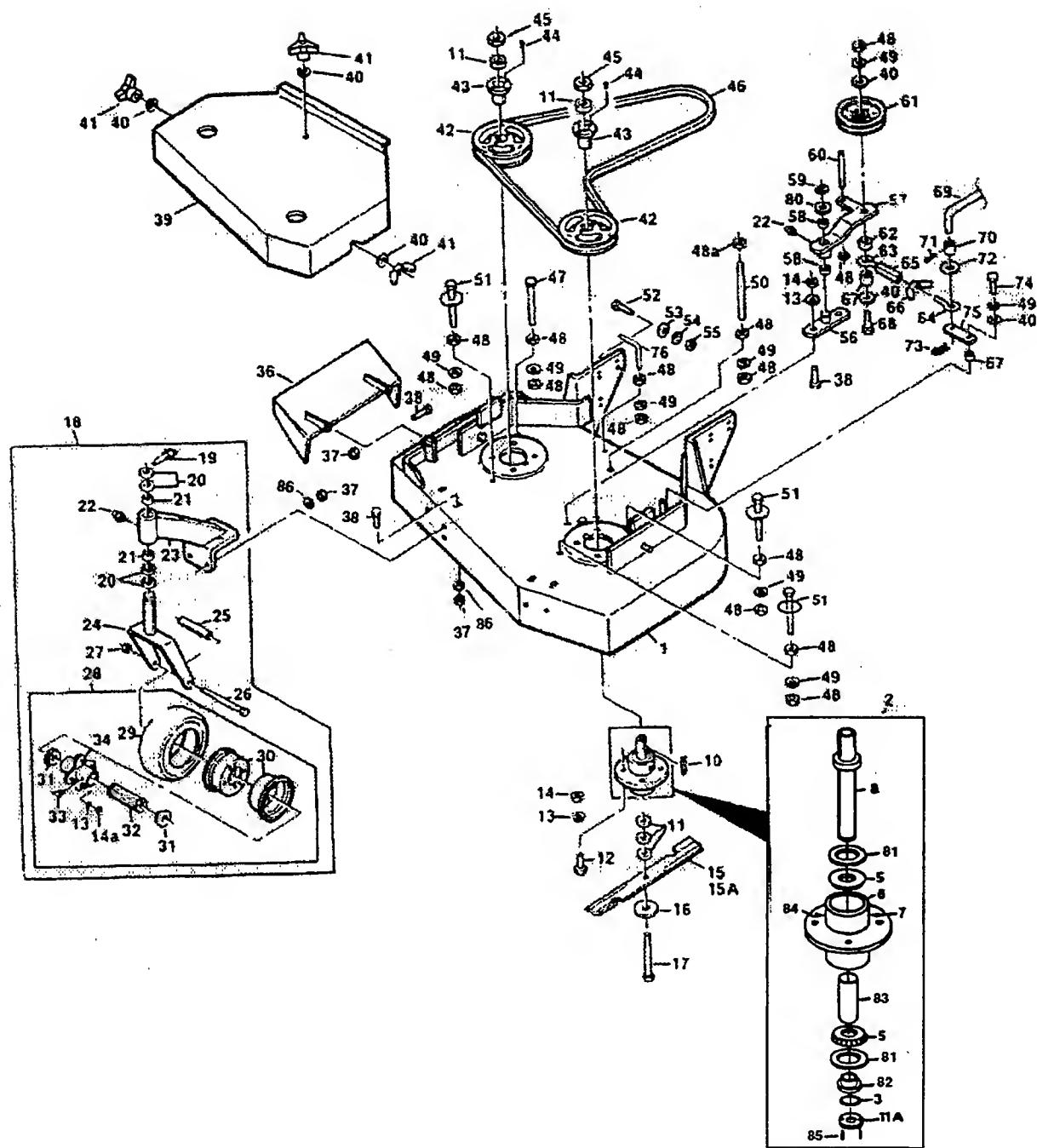
1. Read and understand the instructions on safety before attempting to operate.
2. Before starting engine:
 - * Fuel valve must be opened.
 - * Transmission must be in NEUTRAL.
 - * Blade clutch lever must be in STOP position.
 - * Neutral latches must be in NEUTRAL LOCK position.
 - * Key switch on.
 - * Choke as required.
3. Start engine. Adjust throttle to achieve proper blade speed.
4. Engage cutter blades by pushing blade clutch lever forward until it snaps into the ON position. Pull lever back to disengage cutter blades.
5. Shift transmission into gear for desired mowing speed.

NOTE: *Top speed is suggested only for transport!*

6. While squeezing steering brake levers with both hands, release both neutral latches.
7. When steering brake levers are released, machine will travel straight. To make a right turn, squeeze RH lever to turn left squeeze LH lever.
8. TO STOP wheel drive, squeeze both levers, lock neutral latches, shift transmission into neutral.

⚠ WARNING: To avoid serious bodily injury and damage to transmission, machine must be at full stop before shifting from forward to reverse or from reverse to forward.

9. In reverse gear, the steering brake levers must be pushed downward for maximum traction.

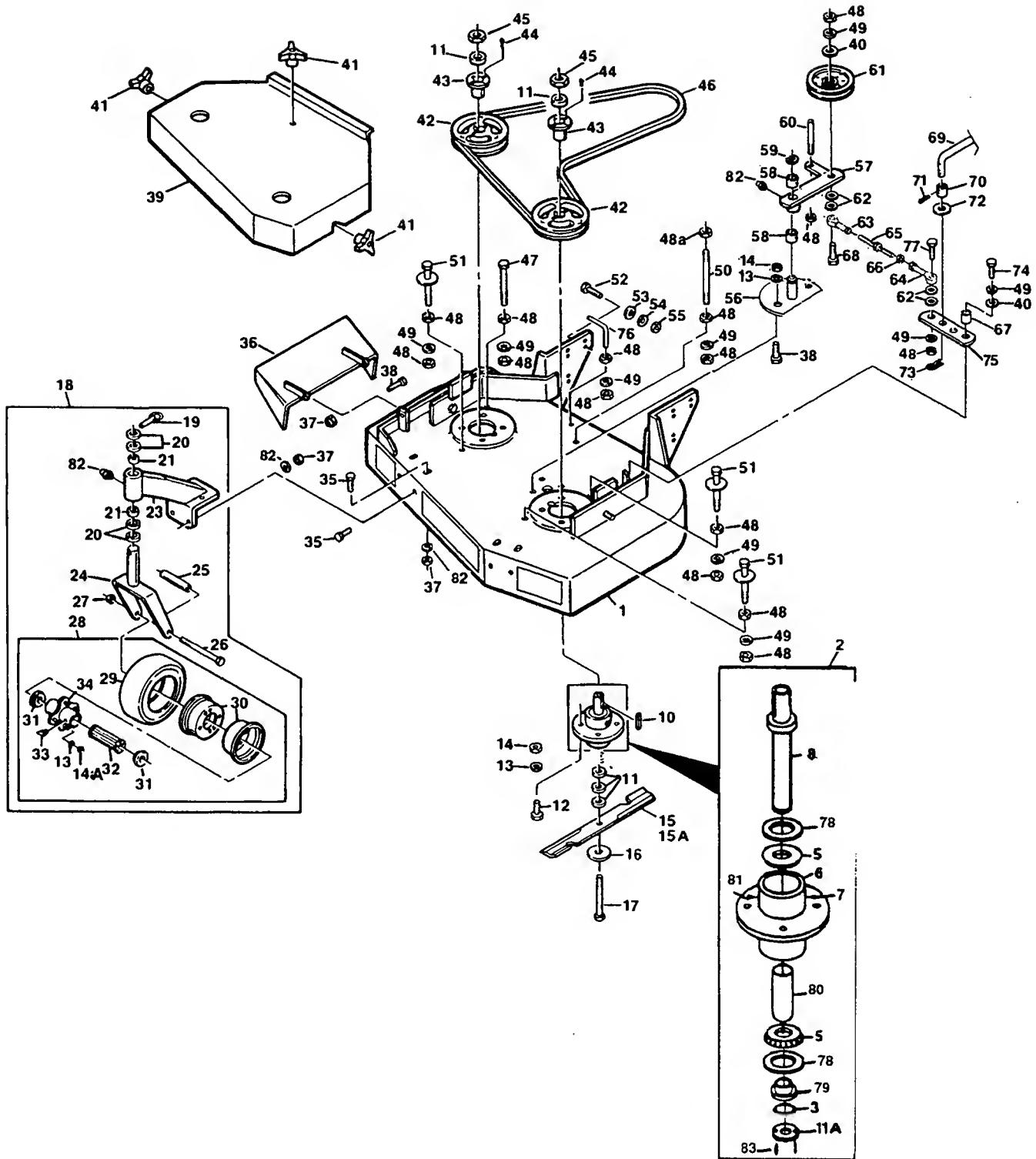
32" CUTTER DECK

32" CUTTER DECK

Ref. Part No.	Part No.	Description	Ref. Part No.	Part No.	Description
1 46156		Cutter Deck	43	48141	Tapered Hub
2 46400		Cutter Spindle Assy. (Includes 3-9 & 81-85)	44	*	Hex Hd. Bolt, 1/4-20 x 3/4
3 04050-04		Retaining Ring, 1" Ext-Inverted	45	*	Hex Nut, 5/8-11
4 04050-07		Retaining Ring, 2-7/16 Int.bsc	46	48278	Belt, Blade Drive
5 48668		Tapered Spindle Bearing,	47	*	Hex Hd. Bolt, 3/8-16 x 5
6 41008		Spindle Housing	48	*	Hex Nut, 3/8-16
7 48114-02		Grease Fitting, Str., 5/16 Serr	48A	*	Hex Nut, 3/8-16 Ctr Locknut
8 45391		Spindle Shaft	49	*	Lockwasher, Spring 3/8
9 04041-02		Washer, 1-5/16 x 2-7/16 x .16 ga.	50	04004-02	Subplate, Belt Cover
10 04041-08		Key, 1/4 x 1/4 x 2	51	45098	Belt Guide
11 43038		Spacer, Cutter Blade	52	*	Hex Hd. Bolt, 7/16-14 x 1-1/4
11A 43201		Spacer, Tapered Bearing	53	*	Washer, 15/32 x 59/64 x 16 ga.
12 *		Hex Hd. Bolt, 5/16-18 x 1-1/4	54	*	Lockwasher, Spring, 7/16
13 *		Lockwasher, Spring, 5/16	55	*	Hex Nut, 7/16-14 elastic stop
14 *		Hex Nut, 5/16-18	56	45037	Idler Pivot
14A *		Hex Nut, 5/16-24	57	46145	Idler Arm Assy. (Includes 22 & 58)
15 48110		Cutter Blade, 16-1/2"	58	48100-05	Bronze Bearing
15A 48184		Cutter Blade, 16-1/2" High Lift	59	04050-02	Retaining Ring, 3/4 Ext. "E"
16 04040-10		Flat Washer, 5/8 W	60	04004-04	Stud
17 04001-41		Hex Hd. Bolt, 5/8-11 x 9-1/2	61	48269	Idler Pulley, Belt Clutch
18 46079		Caster Assy. (Includes 19-28)	62	43063	Spacer, Idler
19 04066-01		Quick Pin	63	04070-02	Eyebolt,LH
20 43037-01		Spacer, Caster Yoke, 1/2" long	64	04070-01	Eyebolt,RH
21 48100-01		Bronze Bearing	65	43025	Turnbuckle
22 48114-01		Grease Fitting, Str. 1/4-28	66	04022-02	Wing Nut, 5/16-18
23 45062		Support Assy.	67	43042	Sleeve, Clutch Rod
24 45006		Caster Yoke	68	*	Hex Hd. Bolt, 3/8-16 x 2-3/4
25 43022		Sleeve, Caster Wheel Brg.	69	44003	Blade Clutch Rod, Lower
26 04001-37		Hex Hd. Bolt, 1/2-13 x 5-1/2	70	43043	Sleeve, Clutch Rod
27 *		Hex Locknut, 1/2-13	71	*	Cotter Pin, 3/32 x 1
28 48307-01		Wheel Assy. (Includes 13-14a, 29-34)	72	*	Washer, 33/64 x 1 x 16 ga.
29 48307-02		Tire Only Caster Wheel	73	04062-01	Hair Pin, Large
29A 48006-03		Inner Tube only	74	*	Hex Hd. Bolt, 3/8-16 x 1
30 48307-04		Rim Pair, Caster Wheel	75	42057	Cam Link
31 48006-07		Retainer, Bearing, Caster wheel	76	44009	Belt Guide
32 48006-06		Roller Bearing, Caster Wheel	77	+	Part Removed From Illustration
33 48114-03		Grease Fitting, 45-1/4-28	78	+	Part Removed From Illustration
34 48006-05		Hub Assembly	79	+	Part Removed From Illustration
35 *		Part Removed From Illustration	80	04041-08S	Washer, 3/4 x 1-1/4 x .035
36 45100		Discharge Chute	80A	04041-08	Washer, 3/4 x 1-1/4 x .060
37 *		Hex Nut, 5/16-18 Elastic Stop	81	48681	Seal, Cutter Spindle
38 *		Hex Head Bolt, 5/16-18 x 1"	82	43217	Spindle Bushing
39 46157		Belt Cover Assy. (Includes decals)	83	43218	Sleeve, Cutter Spindle
40 *		Washer, 25/64 x 15/16 x 12 ga..	84	48677	Relief Fitting, Cutter Spindle
40A *		Washer, 13/32 x 13/16 x 16 ga..	85	*	Roll Pin, 1/8 x 1/2"
41 04029-03		Wing Nut, 3/8-16	86	*	Flat Washer, 5/16
42 48127		Pulley (Includes 43-44)			

* Common hardware which should be purchased locally. All bolts are Grade 5 plated, all other fasteners are zinc plated.

36" CUTTER DECK

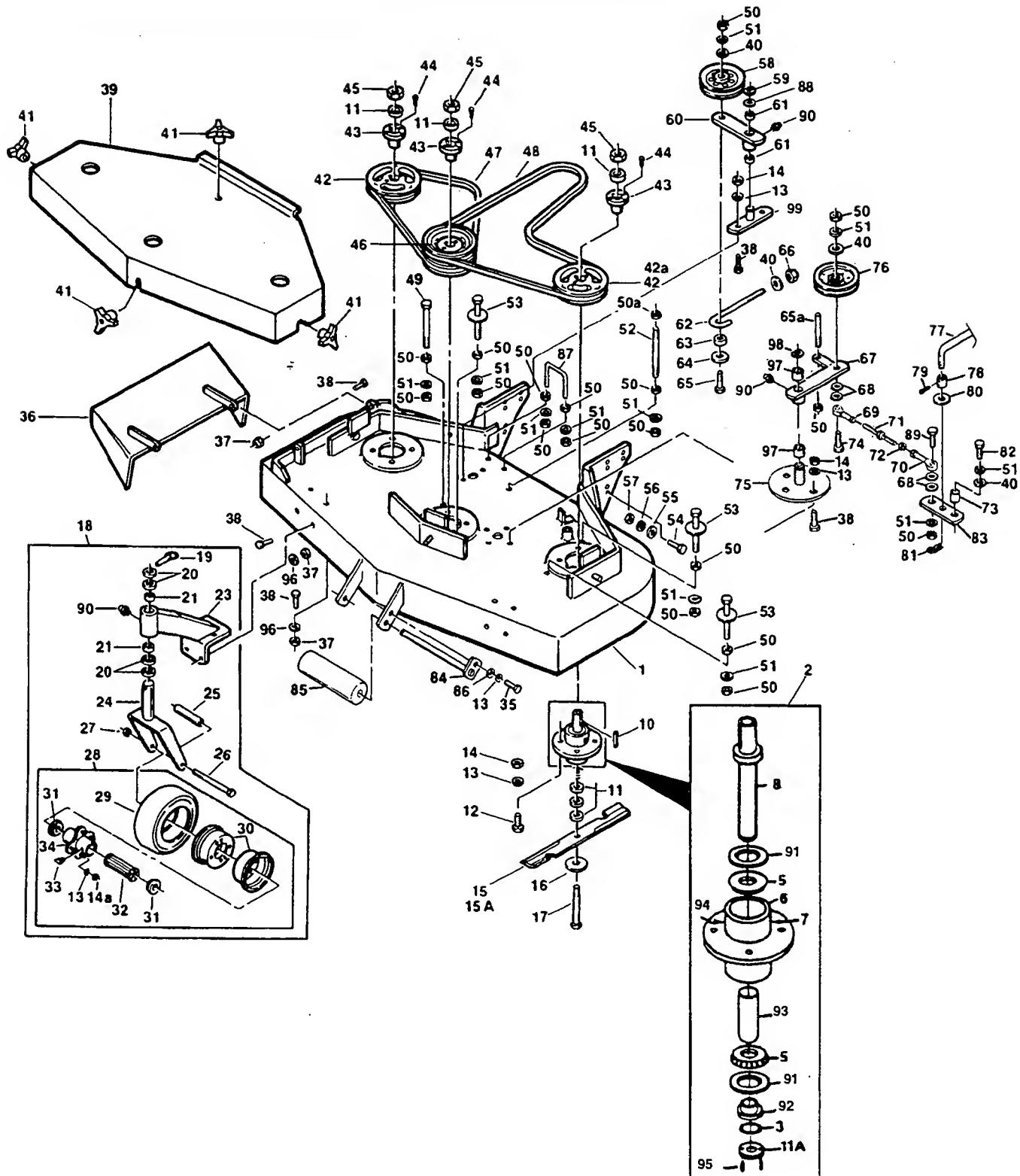


36" CUTTER DECK

Ref. Part No. Number	Description	Ref. Part No. Number	Description
!ATTENTION LINES IN BOLD LETTERS INDICATE EXTRA IDENTIFICATION IS NEEDED!			
1 46087	Cutter Deck (Includes Decals)	40A *	Washer, 13/32 x 13/16 x 16 ga.
2 46400	Cutter Spindle Assy.	41 04029-03	Wing Nut, 3/8-16
3 04050-04	Retaining Ring, 1" Ext-Inverted	42 48127	Pulley (Includes Items 43-44)
4 04050-07	Retaining Ring, 2-7/16 Int-Lsc	43 48141	Tapered Hub
5 48668	Tapered Bearing	44 *	Hex Hd. Bolt, 1/4-20 x 3/4"
6 41008	Spindle Housing	45 *	Hex Nut, 5/8-11
7 48114-02	Grease Fitting, Str., 5/16, Serrated	46 48204	Belt Blade Drive
8 45391	Spindle Shaft	47 *	Hex Hd. Bolt, 3/8-16 x 5"
9 04041-02	Washer, 1-5/16 x 2-7/16 x 16 ga.	48 *	Hex Nut, 3/8-16
10 04063-08	Key, 1/4 x 1/4 x 2"	48A *	Hex Nut, 3/8-16 Clr Locknut
11 43038	Spacer, Cutter Blade - Small	49 *	Lockwasher, Spring 3/8"
11A 43201	Spacer, Cutter Blade - Large	50 04C04-02	Support, Belt Cover
12 *	Hex Hd. Bolt, 5/16-18 x 1-1/4"	51 45098	Belt Guide
13 *	Lockwasher, Spring, 5/16"	52 *	Hex Hd. Bolt, 7/16-14 x 1-1/4"
14 *	Hex Nut, 5/16-18	53 *	Washer, 15/32 x 59/64 x 16 ga.
14A *	Hex Nut, 5/16-24	54 *	Lockwasher, Spring, 7/16"
15 48108	Cutter Blade 18"	55 *	Hex Nut, 7/16-14 Elastic Stop
15A 48185	Cutter Blade 18" Hi Lift	56 45423	Idler Pivot
16 04040-10	Flatwasher, 5/8 W	57 46434	Idler Arm Assy. (Includes Items 82 & 58)
17 04001-41	Hex Hd. Bolt, 5/8-11 x 9-1/2"	58 48100-02	Bronze Bearing
18 46079	Caster Assembly (Includes Items 19-28)	59 04050-05	Retaining Ring, 1-1/8" Ext,-"E"
19 04066-01	Quick Pin	60 04004-04	Stud
20 43037-01	Spacer, Caster Yoke, 1/2" long	61 48269	Idler Pulley, Belt Clutch
21 48100-01	Bronze Bearing	62 *	Flatwasher, 3/8"
23 46082	Support Assembly (Includes Items 21, 82)	63 48544	Rod End - L.H. Thd (Silver)
24 45006	Caster Yoke	64 48464	Rod End - R.H. Thd (Gold)
25 43022	Sleeve, Caster Wheel/Brg.	65 48590	Link Turnbuckle
26 04071-37	Hex Hd. Bolt, 1/2-13 x 5-1/2"	66 *	Hex Nut, 3/8-24
27 *	Hex Locknut, 1/2-13	67 43042	Sleeve, Clutch Rod
28 48307	Wheel Assy. (Includes 13-14a, 29-34)	68 *	Hex Hd. Bolt, 3/8-16 x 2-3/4"
29 48307-02	Tire Only Caster Wheel	69 44064	Blade Clutch Rod, Lower
NS 48006-03	Inner Tube only	70 43043	Sleeve, Clutch Rod
30 48307-04	Rim Pair, Caster Wheel	71 *	Cotter Pin, 3/32 x 1"
31 48006-07	Retainer, Bearing, Caster Wheel	72 *	Washer, 33/64 x 1 x 16 ga.
32 48006-06	Roller Bearing, Caster Wheel	73 04062-01	Hair Pin, Large
33 48114-03	Grease Fitting, 45° 1/4-28	74 *	Hex Hd. Bolt, 3/8-16 x 1"
34 48006-05	Hub Assembly	75 421107	Cam Link
35 *	Hex Hd Bolt, 5/16-18 x 1"	76 44009	Belt Guide
36 45100	Discharge Chute	77 *	Hex Head Bolt, 3/8-16 x 1-1/2"
37 *	Hex Nut, 5/16-18 Elastic Stop	78 48684	Seal, Cutter Spindle
38 *	Hex Hd Bolt, 5/16-18 x 1"	79 43217	Spindle Bushing
39 46085	Belt Cover Assembly (Includes Decal)	80 43218	Sleeve, Cutter Spindle
40 *	Washer, 25/64 x 15/16 x 12 ga.	81 48677	Relief Fitting, Cutter Spindle
		82 *	Flatwasher, 5/16"
		83 *	Roll Pin, 1/8 x 1/2"

* Common hardware which should be purchased locally. All bolts are Grade 5 plated, all other fasteners are zinc plated.

48, 52, 61, & 72" CUTTER DECK



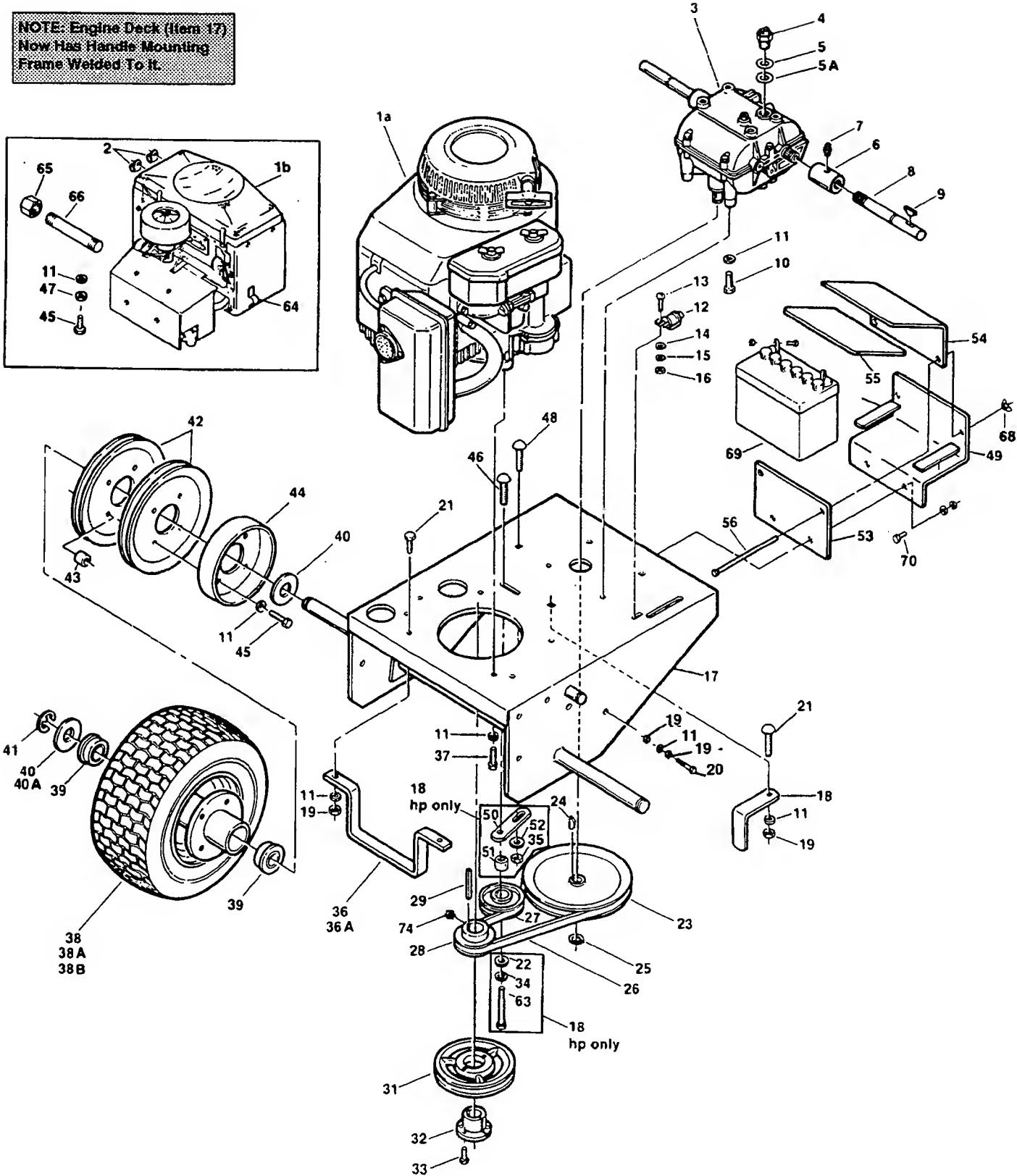
48, 52, 61, & 72" CUTTER DECKS

Ref. No.	Part No.	Description	48 52 61 72	Ref. No.	Part No.	Description	48 52 61 72
1 46088		Cutter Deck (Includes decals)	x	47 48087		Belt, RH Blade Drive	x
1 46163		Cutter Deck (Includes decals)	x	47 48285		Belt, RH Blade Drive	x
1 46119		Cutter Deck (Includes decals)	x	47 48265		Belt, RH Blade Drive	x
1 46194		Cutter Deck (Includes decals)	x	47 48295		Belt, RH Blade Drive	x
2 46400		Spindle Assembly, Tapered Bearing	x x x x	48 48089		Belt, Blade Drive	x
3 04050-04		Retaining Ring, 1" Ext. inverted	x x x x	48 48286		Belt, Blade Drive	x
4 04050-07		Retaining Ring, 2-7/16" Int basic	x x x x	48 48264		Belt, Blade Drive	x
5 48668		Tapered Bearing	x x x x	48 48296		Belt, Blade Drive	x
6 41026		Spindle Housing, Tapered Bearing	x x x x	49 *		Hex Hd. Bolt, 3/8-16 x 5"	x x x
7 48114-02		Grease Fitting Str 5/16" Set	x x x x	49 45098		Belt Guide	x
8 45391		Spindle Shaft, Taper Bearing	x x x x	50 *		Hex Nut, 3/8-16	x x x x
9 04041-02		Washer, 1-5/16 x 2-7/16 x 16 ga.	x x x x	50A *		Hex Nut, 3/8-16, Centerlock	x x x x
10 04063-08		Key, 1/4 x 1/4 x 2"	x x x x	51 *		Lockwasher, Spring, 3/8"	x x x x
11 43038		Spacer, Cutter Blade - Small	x x x x	52 04004-02		Support, Belt Cover	x x x x
11A 43201		Spacer, Cutter Blade - Large	x x x x	53 45098		Belt Guide	x x x x
12 *		Hex Hd. Bolt, 5/16-18 x 1-1/4"	x x x x	54 *		Hex Hd. Bolt, 7/16-14 x 1-1/2"	x x x x
13 *		Lockwasher, Spring, 5/16"	x x x x	55 *		Washer, 15/32 x 59/64 x 16 ga.	x x x x
14 *		Hex Nut, 5/16-18	x x x x	56 *		Lockwasher, Spring, 7/16"	x x x x
14A *		Hex Nut, 5/16-24	x x x x	57 *		Hex Nut, 7/16-14	x x x x
15 48110		Cutter Blade 16-1/2"	x	58 48161		Idler Pulley, "V" Groove	x x x x
15 48108		Cutter Blade 18"	x	59 04050-02		Retaining Ring, 3/4" Ext. "E"	x x x x
15 48111		Cutter Blade 21"	x	60 46081		Idler Arm Assy. (Includes 82 & 61)	x x x x
15 48112		Cutter Blade 24"	x	61 48100-05		Bronze Bearing	x x x x
15A 48184		Cutter Blade 16-1/2" Hi Lift	x	62 43028		J Rod, Idler Pull	x x x x
15A 48185		Cutter Blade 18" Hi Lift	x	63 43077		Spacer, J Pull Rod	x x x x
15A 48304		Cutter Blade 21" Hi Lift	x	64 04041-12		Washer, 3/8 x 1-1/2 x 16 ga.	x x x x
16 04041-10		Flatwasher, 5/8" W	x x x x	65 *		Hex Hd. Bolt, 3/8-16 x 2-1/4"	x x x x
17 04001-41		Hex Hd. Bolt, 5/8-11 x 9-1/2"	x x x x	65A 04004-04		Stud	x x x x
18 46079		Caster Assy. Comp. (incl. 19-28)	x x x x	66 *		Hex Nut, 3/8-16 Elastic Stop	x x x x
19 04065-01		Quick Pin	x x x x	67 46434		Idler Arm (Includes Items 97, 90)	x x x x
20 43037-01		Spacer, Caster Yoke, 1/2" thick	x x x x	68 *		Flatwasher, 3/8"	x x x x
21 48100-01		Bronze Bearing	x x x x	69 48544		Rod End L.H. THD. (Silver)	x x x x
23 46082		Support Assy. (incl. 21-90)	x x x x	70 48464		Rod End R.H. THD. (Gold)	x x x x
24 45006		Caster Yoke	x x x x	71 48590		Link, Turnbuckle	x x x x
25 43022		Sleeve, Caster Wheel Bearing	x x x x	72 *		3/8"-24 Hex Nut	x x x x
26 04041-37		Hex Hd. Bolt, 1/2-13 x 5-1/2"	x x x x	73 43042		Sleeve, Cam Clutch	x x x x
27 *		Hex Locknut, 1/2-13	x x x x	74 *		Hex Hd. Bolt, 3/8-16 x 2-3/4"	x x x x
28 48307		Wheel Assy. (incl. 13-14, 29-34)	x x x x	75 45329		Idler Pivot	x x x x
29 48307-02		Tire only, Caster Wheel	x x x x	76 48269		Idler Pulley, Belt Clutch	x x x x
30 48006-03		Inner Tube only, Caster Wheel	x x x x	77 44064		Blade Clutch Rod, Lower	x x x x
31 48006-07		Rim Pair, Caster Wheel	x x x x	78 43043		Sleeve, Clutch Rod	x x x x
32 48006-06		Retainer, Bearing, Caster Wheel	x x x x	79 *		Cotter Pin, 3/32 x 1"	x x x x
33 48114-03		Roller Bearing, Caster Wheel	x x x x	80 *		Washer, 33/64 x 1 x 16 ga.	x x x x
34 48006-05		Grease Fitting 45 deg., 1/4-28	x x x x	81 04062-01		Hair Pin Large	x x x x
35 *		Hub Assy. (incl. bolts)	x x x x	82 *		Hex Hd. Bolt, 3/8-16 x 1"	x x x x
36 *		Hex Hd. Bolt, 5/16-18 x 3/4"	x x x x	83 421107		Cam Link	x x x x
36 45029		Discharge Chute	x x	84 45046		Rotor Shaft	x x x
36A 46100		Discharge Chute	x x	85 48038		Guide Roller	x x x
37 *		Hex Nut, 5/16-18 Elastic Stop	x x x x	86 *		Flat Washer, 11/32 x 11/16 x 16 ga.	x x x x
38 *		Hex Hd. Bolt, 5/16-18 x 1"	x x x x	87 44008		Belt Guide	x x x x
39 46086		Belt Cover (Includes decals)	x	88 *		Flatwasher, 3/4 x 1-1/4 x .035	x x x x
39 46164		Belt Cover (Includes decals)	x	89 *		Hex Head Bolt, 3/8-16 x 1-1/2"	x x x x
39 46121		Belt Cover (Includes decals)	x	90 48114-04		Grease Fitting	x x x x
39 46312		Belt Cover (Includes decals)	x	91 48681		Seal	x x x x
40 *		Washer 25/64 x 15/16 x 12 ga.	x x x x	92 43217		Spindle Bushing	x x x x
41 04029-03		Wing Nut, 3/8-16	x x x x	93 43218		Sleeve, Cutter Spindle	x x x x
42 48127		Pulley, (Includes 43-44)	x x x x	94 48677		Relief Fitting, Cutter Spindle	x x x x
42A 48299		Pulley, (Includes 43-44)	x	95 *		Roll Pin, 1/8 x 1/2"	x x x x
43 48141		Tapered Hub	x x x x	96 *		Flatwasher, 5/16"	x x x x
44 *		Hex Hd. Bolt, 1/4-20 x 3/4"	x x x x	97 48114-02		Bronze Bearing	x x x x
45 *		Hex Nut, 5/8-11	x x x x	98 04050-05		Retaining Ring 1-1/8 Ext. "E"	x x x x
46 48412		Pulley, Double (Includes 43-44)	x x x	99 45037		Idler Pivot	x x x x
46 48302		Pulley, Double (Includes 43-44)	x				

* Common hardware which should be purchased locally. All bolt Grade 5 plated, all other fasteners zinc plated.

ENGINE DECK

**NOTE: Engine Deck (Item 17)
Now Has Handle Mounting
Frame Welded To It.**



ENGINE DECK

REF. PART NO.	DESCRIPTION	13KH	13KA 14KH	14KA	16BV	18KH	18KHE
1A 48674	Engine 12.5HP Kohler (PS-1256)	x					
1A 48357	Engine 14HP Kohler (CV12.5T PS-1413)	x					
1A 48190	Engine 12.5HP Kawasaki (FB460-ES05)		x				
1A 48528	Engine 14HP Kawasaki (FC420V)	x					
1B 48863	Engine 16HP Briggs Vanguard (303772 0345 02)		x				
1B 48268	Engine 18HP Kohler (MV18 PS-58511)				x		
1B 48862	Engine 18HP Kohler El. St. (MV18 PS-58558)				x		x
2 48059-01	Cable Clamp				x	x	x
3 48321	Transmission, 5 speed (Peerless 700-026)	x	x	x	x	x	x
4 48231	Neutral Safety Switch	x	x	x	x	x	x
5 48122-01	Fibre Washer, thin	x	x	x	x	x	x
5A 48122-02	Fibre Washer, thick	x	x	x	x	x	x
6 48851	Coupler, Jackshaft	x	x	x	x	x	x
7 48114-01	Grease Fitting, straight 1/4-28						
8 48225	Jackshaft (fits SW32, 36, & 48)	x	x	x	x	x	x
9 48242	Jackshaft (fits SW52, 61, & 72)	x	x	x	x	x	x
9 04063-09	Key, Hi Pro #9	x	x	x	x	x	x
10	Hex Head Bolt, 5/16-18 x 3/4"	x	x	x	x	x	x
11	Lockwasher, Spring 5/16"	x	x	x	x	x	x
12 48305	Switch, Clutch Safety	x	x	x	x	x	x
13	Phillips Head Machine Screw, 10-32 x 1/2"	x	x	x	x	x	x
14	Washer .219 x .500 x .049	x	x	x	x	x	x
15	Lockwasher, #10 Ext. Tooth	x	x	x	x	x	x
16	Hex Nut #10-32	x	x	x	x	x	x
17 45090	Engine Deck (fits SW36, & 48)	x	x				
17 45116	Engine Deck (fits SW52, 61, & 72)	x	x	x	x	x	x
17 45128	Engine Deck (fits SW32)		x				
18 42199	Rear Belt Guide, Engine	x	x	x	x	x	x
19	Hex Nut, 5/16-18	x	x	x	x	x	x
20	Hex Head Bolt, 3/8-16 x 3-3/4"	x	x	x	x	x	x
21	Hex Head Bolt, 5/16-18 x 1"	x	x	x	x	x	x
21A	Carriage Head Bolt, 5/16-18 x 1"	x	x	x	x	x	x
22	Washer, 25/64 x 15/16 x 12 ga.	x	x	x	x	x	x
23 48197	Pulley, Transmission Input	x	x	x	x	x	x
24 04063-07	Key, Woodruff #9	x	x	x	x	x	x
25 04050-09	Retaining Ring, 5/8 Ext. Basic	x	x	x	x	x	x
26 48203	Belt, Transmission Drive	x	x	x	x	x	x
27 48201	Idler Pulley, Transmission	x	x	x	x	x	x
28 48196	Pulley, Traction Drive	x	x	x	x	x	x
29 04063-03	Key, 1/4 x 1/4 x 2-1/2"	x	x	x	x	x	x
31 48127	Pulley, Blade Drive, (Incl. 32-33)	x	x	x	x	x	x
32 48141	Taper Hub (for 48127)	x	x	x	x	x	x
33	Hex Hd Bolt, 1/4-20 x 3/4"	x	x	x	x	x	x
34	Lockwasher, Spring, 3/8"	x	x	x	x	x	x
35	Hex Nut, 3/8-16	x	x	x	x	x	x
36 42268	Belt Guide, Saddle (fits SW32, & 36)	x	x				
36A 42265	Belt Guide, Saddle (fits SW48, 52, 61, & 72)	x	x	x	x	x	x
37	Hex Head Bolt, Metric 8 x 30 (8 x 25 on SW32)	x					
37	Hex Head Bolt, 5/16-18 x 1-3/4 (1-1/4 on SW32-14BV)	x					
38 48192-01	Wheel Assy (Incl. 38A-38B) (fits SW36, 48, 52, 61, 72)	x	x	x	x	x	x
38 48253	Wheel Assy (Incl. 38A-38B) (fits SW32)	x					
38A 48192-01	Tire, 13 x 6.50-6, 2-Ply (fits SW36, 48, 52, 61, & 72)	x	x	x	x	x	x
38B 48192-03	Rim & Bearing Assy (Incl. 39) (fits SW36, 48, 52, 61, & 72)	x	x	x	x	x	x
38C 48253-02	Tire, 13 x 5.00-ply (fits SW32 only)	x					
38D 48253-03	Rim & Bearing Assy (Incl. 39) (fits SW32 only)	x					
39 48193-02	Wheel Bearing NWC (OD 1.984 - 1.980)	x	x	x	x	x	x
39 48193-01	Wheel Bearing (OD 2.001 - 2.005)	x	x	x	x	x	x
40 04042-05	Washer, 1-1/16 x 1-3/4 x 12 ga.	x	x	x	x	x	x
40A 04041-14	Washer, 1-1/16 x 1-1/2 x 16 ga.	x	x	x	x	x	x

* Common hardware which should be purchased locally. All bolts Grade 5 plated, all other fasteners zinc plated.

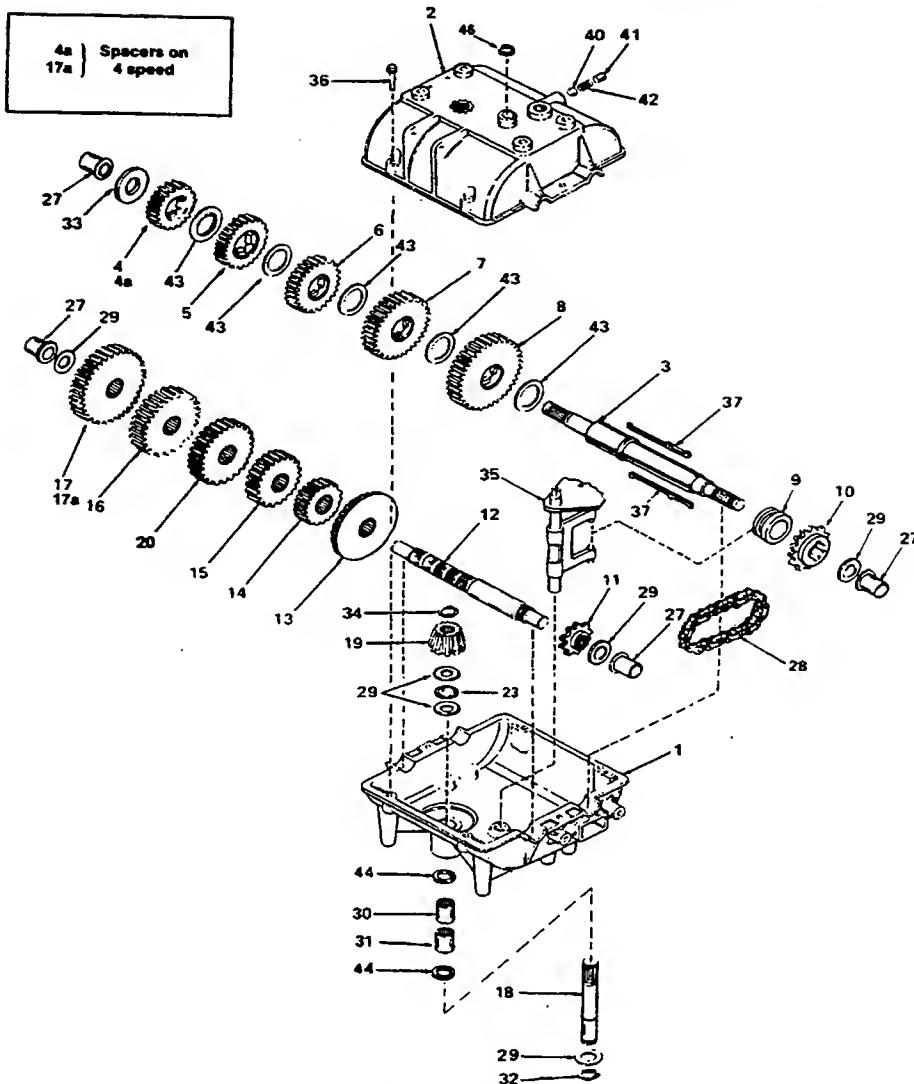
ENGINE DECK CONTINUED ON FOLLOWING PAGE

ENGINE DECK CONT'D

REF. NO.	PART NO.	DESCRIPTION	13KH 13KA 14KH 14KA 16BV 18KH 18KHE						
			13KH	13KA	14KH	14KA	16BV	18KH	18KHE
41	04050-08	Retaining Ring, 1" Ext.-"E"		x	x	x	x	x	x
42	48200	Pulley, Wheel Drive	x	x	x	x	x	x	x
43	43088	Spacer, Wheel Pulley	x	x	x	x	x	x	x
44	48209	Brake Drum	x	x	x	x	x	x	x
45	*	Hex Hd. Bolt, 5/16-18 x 1-1/2"	x	x	x	x	x	x	x
46	14003-03	Short Square Neck Crg. Bolt, 3/8-16 x 2"	x	x	x	x	x	x	x
47	*	Hex Nut, 5/16-18 Elastic Stop	x	x	x	x	x	x	x
48	14003-05	Short Sq. Neck Crg. Bolt, 3/8-16 x 1-1/2"			x	x	x	x	x
49	45145	Battery Box				x	x	x	x
50	41140	Bracket, Idler Pulley			x	x	x	x	x
51	43063	Spacer		x	x	x	x	x	x
52	04041-11	Washer, 13/32 x 1-1/2 x 7 ga.		x	x	x	x	x	x
53	42361	Battery Clamp			x	x	x	x	x
54	42024	Battery Cover				x	x	x	x
55	48099	Battery Cover Pad				x	x	x	x
56	*	Carrage Hd. Bolt, 1/4-20 x 6"				x	x	x	x
53	*	Hex Hd. Bolt, 3/8-16 x 2"			x	x	x	x	x
64	48030	Clamp, Fuel Hose			x	x	x	x	x
65	48254	Pipe Cap			x	x	x	x	x
66	48254	Pipe 4" Nipple		x	x	x	x	x	x
68	04029-01	Plastic Wing Nut, 1/4-20				x	x	x	x
69	48015	Battery				x	x	x	x
70	*	Hex Hd. Bolt, 3/8-16 x 1-1/4"				x	x	x	x
71	*	Hex Nut, 5/16-18	x	x	x	x	x	x	x
72	*	Lockwasher, 5/16"	x	x	x	x	x	x	x
73	44037	Belt Scraper	x	x	x	x	x	x	x
74	04012-04	Set Screw	x	x	x	x	x	x	x

* Common hardware which should be purchased locally. All bolts Grade 5 plated, all other fasteners zinc plated.

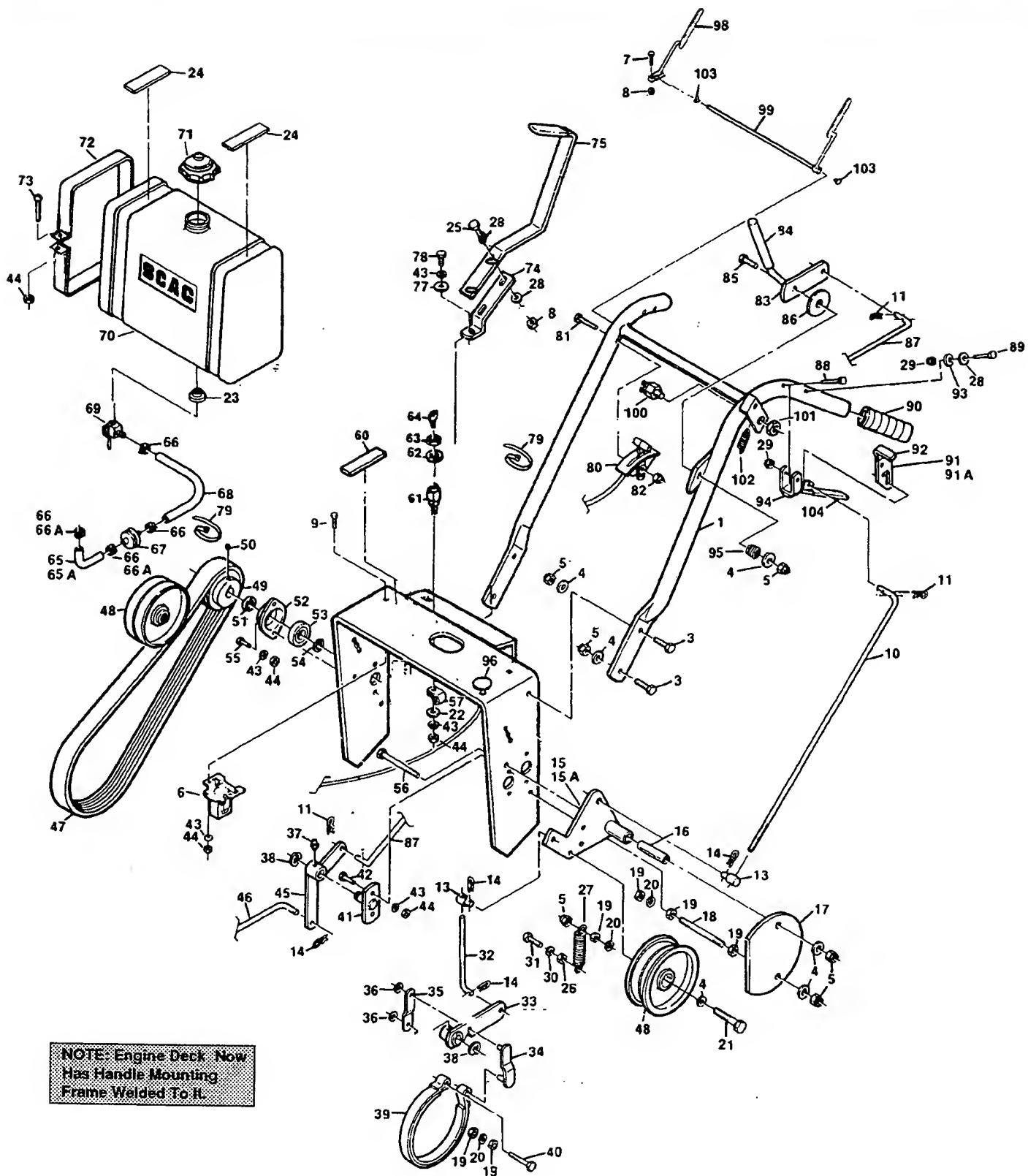
PEERLESS 700



PEERLESS TRANSMISSION MODEL 700-026

REF. PART NO.	DESCRIPTION	REF. PART NO.	DESCRIPTION
1 770061	Case, Transmission	20 778240	Gear, Spur (18 teeth)
2 772083	Cover, Transmission	23 780071	Bearing, Thrust
3 776217	Shaft, Output & Brake	27 780105A	Bushing, Flanged
4 778123A	Gear, Spur (25 teeth)	28 786081	Chain, Roller (No.41 chain,24 links)
5 778124A	Gear, Spur (30 teeth)	29 780072	Washer, Thrust
6 778239	Gear, Spur (32 teeth)	30 78 86	Bearing, Needle
7 776125	Gear, Spur (35 teeth)	31 780142	Bearing, Needle
8 778146A	Gear, Spur (37 teeth)	32 792035	Ring, Retaining
9 784266	Collar, Shift	33 780139	Washer, Thrust
10 786063	Sprocket (18 teeth)	34 788040	Ring, Retaining
11 786082	Sprocket (9 teeth)	35 784267	Rod & Fork Assy., Shift
12 776134	Shaft, Counter	36 792073	Screw, Flanged Hex Head, thrd fmg, 1/4-20 x 1-1/4"
13 778154	Gear, Bevel (42 teeth)	37 792089A	Key
14 778145	Gear, Spur (12 teeth)	40 792077	Ball, Steel, 5/16"
15 778151	Gear, Spur (15 teeth)	41 792078	Screw, Set 3/8-16 x 3/8"
16 778126A	Gear, Spur (20 teeth)	42 792079	Spring
17 778127A	Gear, Spur (25 teeth)	43 780108	Washer, Thrust
18 776135	Shaft, Input	44 792001	'O' Ring
19 779176	Bevel Pinion, Input	46 788069	Seal, Square cut

HANDLE ASSEMBLY



**NOTE: Engine Deck Now
Has Handle Mounting
Frame Welded To It.**

HANDLE ASSEMBLY

REF.	PART NO.	DESCRIPTION	13KH	13KA	14KH	14KA	16BV	18KH	18KHE
! ATTENTION LINES IN BOLD LETTERS INDICATE EXTRA IDENTIFICATION IS NEEDED !									
1	46084	Handle Assy. Fits SW 32, 36, 48	x	x					
1	46179	Handle Assy. Fits SW 52, 61, 72	x	x	x	x	x	x	
2	+	Part Removed From Illustration							
3	+	Hex Head Bolt, 3/8-16 x 1"	x	x	x	x	x	x	
4	+	Washer, 25/64 x 15/16 x 12 ga.	x	x	x	x	x	x	
5	+	Hex Nut, 3/8-16 Elastic Stop	x	x	x	x	x	x	
6	48016	Solenoid							x
7	+	Hex Head Bolt, 5/16-18 x 1-1/4"	x	x	x	x	x	x	
8	+	Hex Nut, 5/16-18 Elastic Stop	x	x	x	x	x	x	
9	+	Bolt, Hex Hd. 1/4-20 x 1/2"					x	x	
10	44004	Control Rod, Steering	x	x	x	x	x	x	
11	04062-02	Hair Pin, Small	x	x	x	x	x	x	
12	*	Cotter Pin, 3/32 x 3/4"	x	x	x	x	x	x	
13	43032	Swivel Joint	x	x	x	x	x	x	
14	04062-01	Hair Pin, Large	x	x	x	x	x	x	
15	45091-01	Idler Bracket, RH	x	x	x	x	x	x	
15A	45091-02	Idler Bracket, LH	x	x	x	x	x	x	
16	43092	Idler Sleeve	x	x	x	x	x	x	
17	42283	Belt Guard	x	x	x	x	x	x	
18	04004-01	Scraped Belt Guard	x	x	x	x	x	x	
19	+	Hex Nut, 3/8-16	x	x	x	x	x	x	
20	+	Lockwasher, 3/8 Spring	x	x	x	x	x	x	
21	+	Hex Head Bolt, 3/8-16 x 2-3/4"	x	x	x	x	x	x	
22	+	Flat Washer, 1/4"	x	x	x	x	x	x	
23	48309	Bushing	x	x	x	x	x	x	
24	48292	Rubber Pads, (upper)	x	x	x	x	x	x	
25	+	Hex Head Bolt, 5/16-18 x 1-1/4"	x	x	x	x	x	x	
26	+	Hex Nut, 5/16-18	x	x	x	x	x	x	
27	48051	Spring, Idler Tension	x	x	x	x	x	x	
28	+	Washer, 5/16 - 3/8x7/8x.083	x	x	x	x	x	x	
29	+	Hex Nut, 5/16-18 Elastic Stop	x	x	x	x	x	x	
30	+	Lockwasher, 5/16 Spring	x	x	x	x	x	x	
31	+	Hex Hd. Bolt, 5/16-18 x 1"	x	x	x	x	x	x	
32	44005	Brake Rod	x	x	x	x	x	x	
33	45092	Brake Lever	x	x	x	x	x	x	
34	45093	Brake Link	x	x	x	x	x	x	
35	42254	Brake Link Plate	x	x	x	x	x	x	
36	04024-01	Nut, 3/8 Push-on	x	x	x	x	x	x	
37	48114-01	Grease Fitting, Straight, 1/4-28	x	x	x	x	x	x	
38	04050-01	Retaining Ring, 5/8 Ext.-"E"	x	x	x	x	x	x	
39	48210	Brake Band	x	x	x	x	x	x	
40	+	Hex Head Bolt, 3/8-16 x 2"	x	x	x	x	x	x	
41	45094	Bell Crank Pivot Wld.	x	x	x	x	x	x	
42	+	Hex Hd. Bolt, 1/4-20 x 1"	x	x	x	x	x	x	
43	+	Lockwasher, 1/4 Spring	x	x	x	x	x	x	
44	+	Hex Nut, 1/4-20	x	x	x	x	x	x	
45	45277	Bell Crank, Clutch	x	x	x	x	x	x	
46	44064	Blade Clutch Rod, Lower	x	x	x	x	x	x	
47	43202A	Belt, Wheel Drive	x	x	x	x	x	x	
48	43198	Idler Pulley, Wheel Drive	x	x	x	x	x	x	
49	48199	Pulley, Jackshaft (Incl. 50)	x	x	x	x	x	x	
50	+	Setscrew, Hex Socket Knurl Cup Pt. 5/16-18 (nylock)	x	x	x	x	x	x	
51	43098	Spacer, Jackshaft Pulley	x	x	x	x	x	x	
52	48223	Flange, Jackshaft Bearing	x	x	x	x	x	x	
53	48224	Bearing, Jackshaft	x	x	x	x	x	x	
54	04050-09	Retaining Ring, 5/8 Ext.-Basic	x	x	x	x	x	x	
55	+	Hex Head Bolt, 1/4-20 x 3/4"	x	x	x	x	x	x	
56	+	Hex Head Bolt, 3/8-16 x 4"	x	x	x	x	x	x	
57	48030-01	Clamp	x	x	x	x	x	x	
58	+	Part Removed From Illustration							

* Common hardware which should be purchased locally. All bolts grade 5 plated, all other fasteners zinc plate.

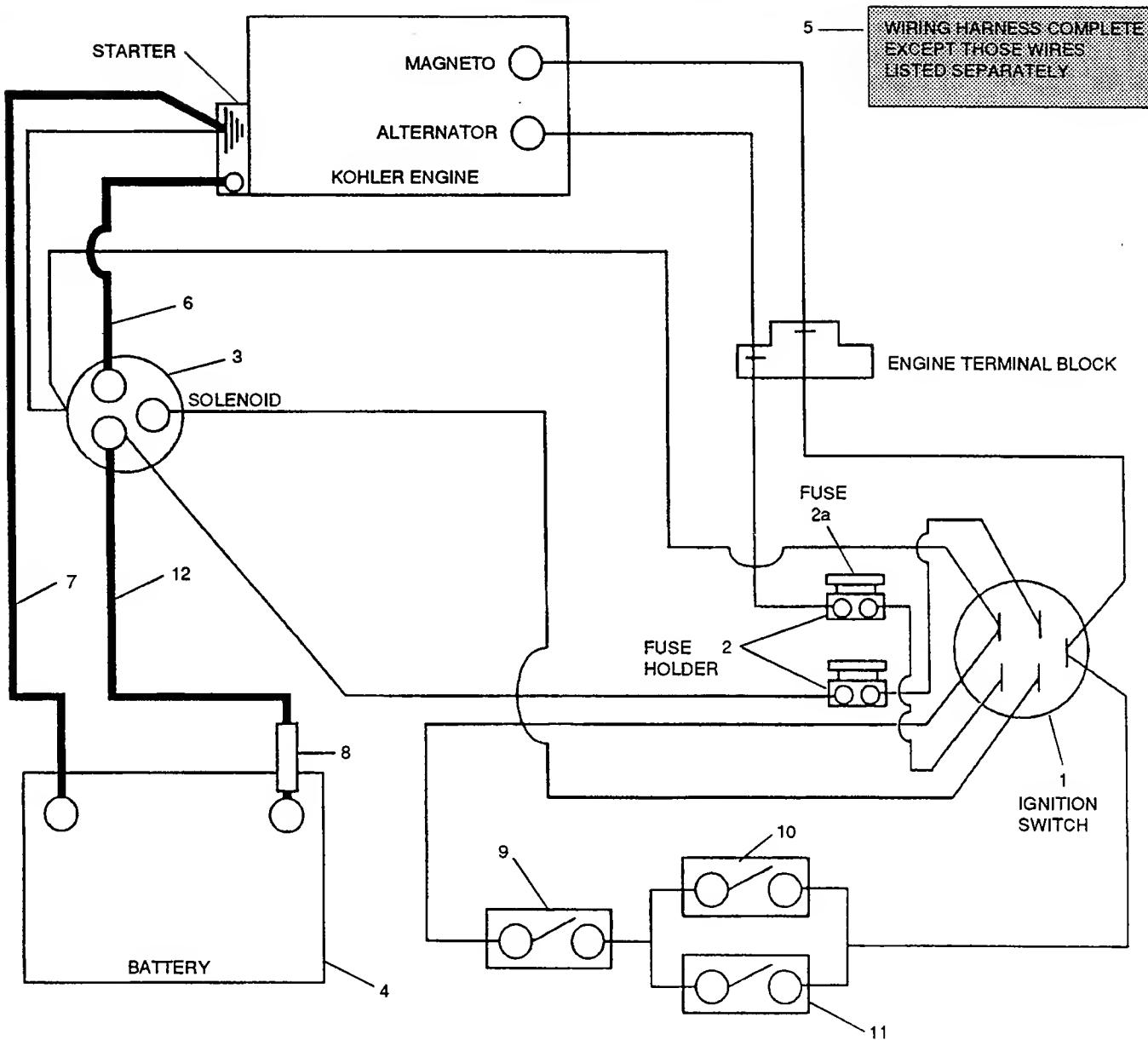
HANDLE ASSEMBLY CONTINUED ON NEXT PAGE

HANDLE ASSEMBLY CONT'D

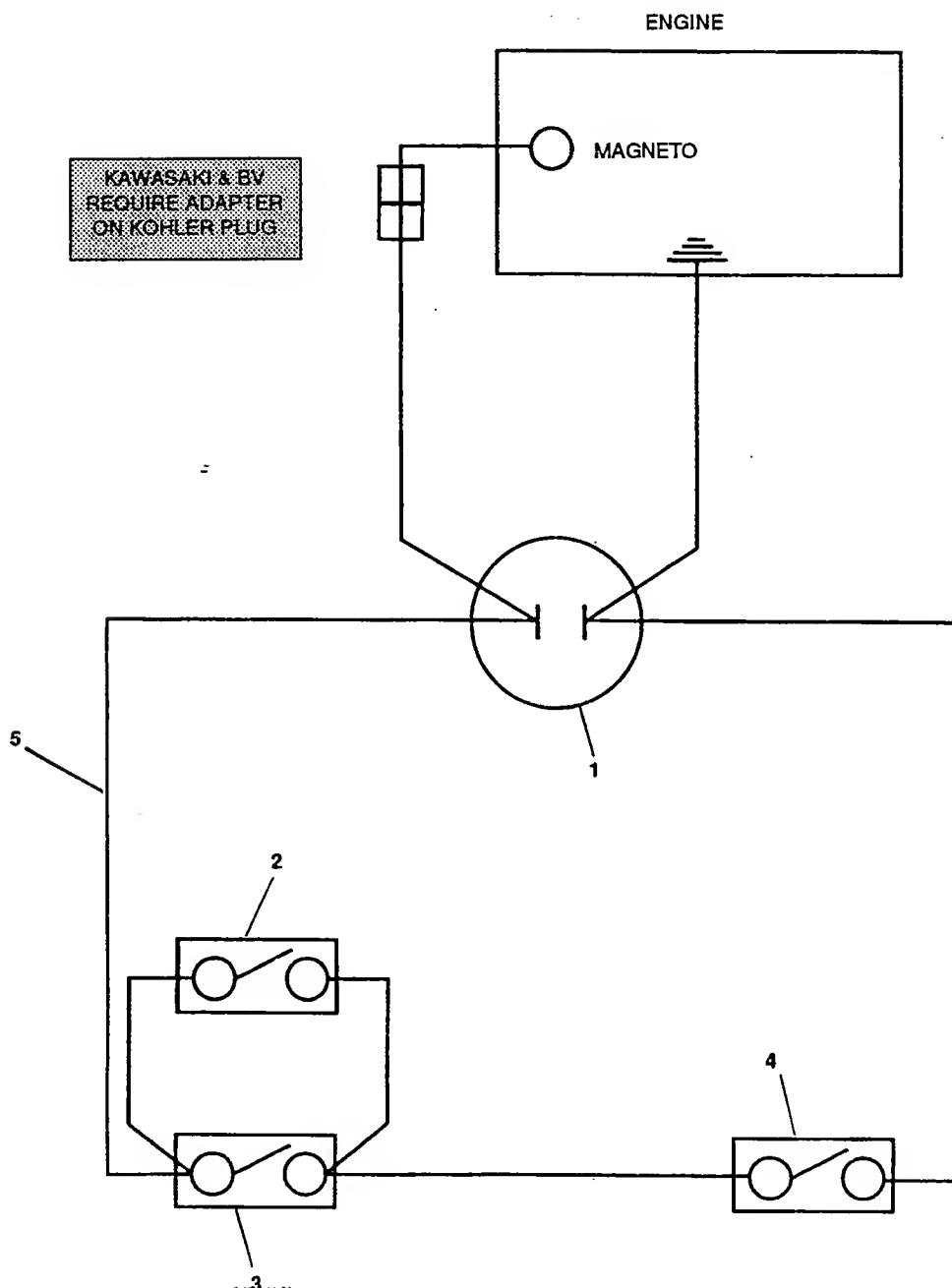
REF. NO.	PART NO.	DESCRIPTION	13KH	13KA	14KH	14KA	16BV	18KH	18KHE
ATTENTION LINES IN BOLD LETTERS INDICATE EXTRA IDENTIFICATION IS NEEDED !									
59	*	Carriage Bolt, 1/4-20 x 1"	x	x	x	x	x	x	
60	48205	Rubber Pad (lower)	x	x	x	x	x	x	
61	48609	Key Switch	x	x	x	x	x	x	
61	48017	Key Switch				x	x		
62	48017-03	Washer, 5/8 Internal Tooth	x	x	x	x	x	x	
63	48017-04	Hex Nut, 5/8-32	x	x	x	x	x	x	
64	48017-02	Key, Ignition	x	x	x	x	x	x	
65	48058-02	Fuel Hose (KH only) 1/4 ID x 14-1/8"			x	x	x	x	
66	48059-01	Clamp, Fuel Hose	x	x	x	x	x	x	
66A	48059-02	Clamp, Fuel Hose (Kawasaki Only)	x						
67	48057-02	Fuel Filter	x						
68	48058-06	Fuel Hose, 1/4 ID x 17"	x	x	x	x	x	x	
69	48308	Valve, Fuel Shut Off	x	x	x	x	x	x	
70	46174	Fuel Tank Assy. (Incl. Decals 23, 69)	x	x	x	x	x	x	
71	48311	Fuel Tank Cap	x	x	x	x	x	x	
72	421239	Strap, Fuel Tank	x	x	x	x	x	x	
73		Machined Screw, 1/4-20 x 2 Round Hd. Slotted	x	x	x	x	x	x	
74	42388	Shifter Lever	x	x	x	x	x	x	
75	421241	Shifter Lever Assy.	x	x	x	x	x	x	
76	+	Part Removed From Illustration							
77	04043-01	Washer, 17/64 x 7/8 x 1/8 HT	x	x	x	x	x	x	
78	04001-55	Hex Head Bolt, 1/4-28 x 3/4 Grade 8	x	x	x	x	x	x	
79	48028-01	Cable Tie	x	x	x	x	x	x	
80	48394	Throttle Control	x	x					
80	48266	Throttle Control			x	x	x	x	
81	*	Hex Head Bolt, 1/4-20 x 2"	x	x	x	x	x	x	
82	*	Hex Nut, 1/4-20 Elastic Stop	x	x	x	x	x	x	
83	46090	Blade Clutch Lever Assy. (Incl. 104)	x	x	x	x	x	x	
84	48326	Grip, Lever	x	x	x	x	x	x	
85	*	Hex Head Bolt, 3/8-16 x 1-3/4"	x	x	x	x	x	x	
86	04041-10	Washer, 3/8 x 2 x 16 ga.	x	x	x	x	x	x	
87	44012	Belt Clutch Rod, Upper	x	x	x	x	x	x	
88	*	Hex Head Bolt, 5/16-18 x 2-1/4"	x	x	x	x	x	x	
89	*	Hex Head Bolt, 5/16-18 x 2"	x	x	x	x	x	x	
90	48159	Choke Handle	x	x	x	x	x	x	
91	42257-01	Neutral Latch, RH	x	x	x	x	x	x	
91A	42257-02	Neutral Latch, LH	x	x	x	x	x	x	
92	+	Part Removed From Illustration	x	x	x	x	x	x	
93	04032-01	Curved Spring Washer	x	x	x	x	x	x	
94	46089	Steering Lever Assy. (Incl. 84)	x	x	x	x	x	x	
95	48050	Spring, Compression	x	x	x	x	x	x	
96	48091	Choke Control			x	x	x	x	
97	*	Set Screw, 1/4-28 x 1/4" Knurled cup point	x	x	x	x	x	x	
98	45141	Safety Interlock Hand Grip - RH	x	x	x	x	x	x	
99	45417	Operator Presence Hand Grip L.H. & Rod (For 16")	x	x					
99	45142	Operator Presence Hand Grip L.H. & Rod (For 20")	x		x	x	x	x	
100	48021	Switch Interlock (gold colored)	x	x	x	x	x	x	
101	04026-01	Hex Nut, 9/16-18 spring steel	x	x	x	x	x	x	
102	48313	Spring, Grip Return	x	x	x	x	x	x	
103	48312	Bushings	x	x	x	x	x	x	
104	48144	Grip, Steering Lever	x	x	x	x	x	x	
NS	48611	Wire Harness, electric start							x
NS	48610	Wire Harness, manual start	x	x	x	x	x	x	
NS	48527	Wire Harness, Kawasaki adapter	x						
NS	48578	Wire Harness, Briggs Vanguard adapter			x				

* Common hardware which should be purchased locally. All bolts grade 5 plated, all other fasteners zinc plate.

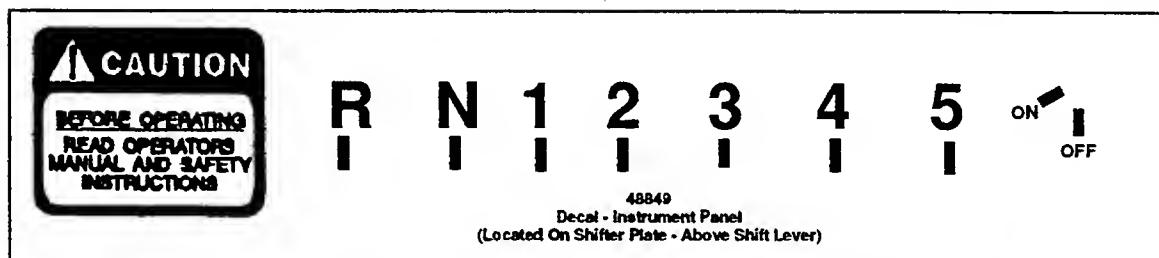
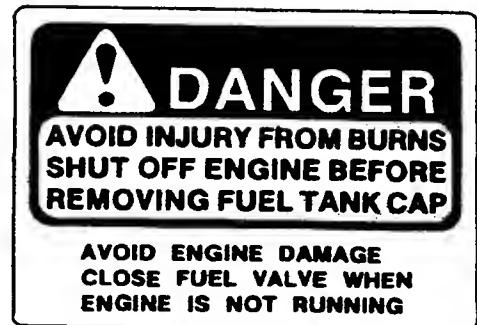
ELECTRIC START ELECTRICAL SYSTEM



Ref. No.	Part Number	Description	SW 18KHE
1	48017	Key Switch	x
2	48297	Fuse Holder	x
2A	48298	Fuse 20 Amps	x
3	48016	Solenoid	x
4	48015	Battery may be purchased locally (U9-LM)	x
5	48611	Wiring Harness Complete	x
6	48029-03	Battery Cable - 13-3/4" Red	x
7	48029-10	Battery Cable - 20" Black	x
8	48126	Rubber Boot	x
9	48021	Switch, Handle Interlock N.C.	x
10	48305	Switch, Cutter Drive Interlock N.C.	x
11	48231	Switch, Neutral Interlock N.O.	x
12	48029-03	Battery Cable - 13.75" Red	x

WIRING DIAGRAM FOR MANUAL START

Ref. No.	Part Number	Description
1	48609	Switch, Ignition
2	48231	Switch, Neutral Interlock, Normally Open
3	48305	Switch, Cutter Drive Interlock, Normally Closed
4	48021	Switch, Operator Presence, Normally Closed
5	48610	Wire Harness

REPLACEMENT DECALS

48072
Decal-Heavy Duty Commercial
(Located on Cutter Deck Cover - Front Wall)



48073
Decal - Danger, Rotating Blades
(Located On Cutter Deck Cover Near Discharge Chute)

61

72	48327
61	48320
52	48319
48	48318
36	48316



48712
Decal - Caution Belt Cover
(Located on Cutter Deck Top Surface)



48071
Decal - O.P.E.I. Safety
(Located on Cutter Deck Near Discharge Chute)

⚠ WARNING

If incorrectly used, this machine can cause severe injury. Those who use and maintain the machine should be trained in its proper use, warned of its dangers, and should read the entire manual before attempting to set up, operate, adjust or service the machine.

LIMITED WARRANTY-COMMERCIAL EQUIPMENT

Any part of the Scag commercial mower manufactured by Scag and found, in the reasonable judgment of Scag, to be defective in materials or workmanship, will be repaired or replaced by an Authorized Scag Service Dealer without charge for parts and labor. This warranty is limited to the original purchaser and is not transferable. Proof of purchase will be required by the dealer to substantiate any warranty claims. All warranty work must be performed by an Authorized Scag Service Dealer.

This warranty is limited to the following specified periods from the date of the original retail purchase for defects in materials or workmanship:

- * Frame, deck and structural components including oil reservoirs - 1 year
- * Wear items including drive belts, blades, hoses and tires are warranted for 90 days
- * Engines and electric starters are covered by the manufacturer's warranty period.
- * Drive system components are covered by the manufacturer's warranty period.
(Excluding fittings, hoses, cooling system, oil reservoir, drive belts.) Drive systems are warranted by Scag Power Equipment in conjunction with the component manufacturer.
- * Batteries are covered for 1 year.
- * Any Scag product used for rental purposes is covered for 90 days.

The Scag mower, including any defective part must be returned to an Authorized Scag Service Dealer within the warranty period. The expense of delivering the mower to the dealer for warranty work and the expense of returning it to the owner after repair will be paid for by the owner. Scag's responsibility is limited to making the required repairs and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any Scag mower.

This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Technical Manual. The warranty does not apply to any damage to the mower that is the result of improper maintenance, or to any mower or parts that have not been assembled or installed as specified in the Technical Manual. The warranty does not cover any mower that has been altered or modified changing performance or durability. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which, in the reasonable judgment of Scag, are either incompatible with the Scag mower or adversely affect its operation, performance or durability.

Scag Power Equipment reserves the right to change or improve the design of any mower without assuming any obligation to modify any mower previously manufactured.

All other implied warranties are limited in duration to the one (1) year warranty period or ninety (90) days for mowers used for rental purpose. Accordingly, any such implied warranties including merchantability, fitness for a particular purpose, or otherwise, are disclaimed in their entirety after the expiration of the appropriate one year or ninety day warranty period. Scag's obligation under this warranty is strictly and exclusively limited to the repair or replacement of defective parts and Scag does not assume or authorize anyone to assume for them any other obligation. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Scag assumes no responsibility for incidental, consequential or other damages including, but not limited to, expense for gasoline, expense of delivering the mower to an Authorized Scag Service Dealer and expense of returning it to the owner, mechanic's travel time, telephone or telegram charges, rental of a like product during the time warranty repairs are being performed, travel, loss or damage to personal property, loss of revenue, loss of use of the mower, loss of time or inconvenience. Some states do not allow the exclusion or limitation of incidental or consequential damages. So the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

PLEASE BE CAREFUL

1. Keep all shields in place, especially grass discharge.
2. Stop machine and remove spark plug wire to adjust or service.
3. When mechanism becomes clogged, stop engine before cleaning.
4. Keep hands, feet and clothing away from power-drive parts.
5. Keep off implement unless seat or platform is provided.
6. Keep others off.

**FAILURE TO FOLLOW CAUTIOUS OPERATING PRACTICES MAY RESULT
IN SERIOUS BODILY INJURY. WE WANT YOU TO CONTINUE TO ENJOY
AND PROFIT BY USING OUR PRODUCTS.**

OWNER REFERENCE

MODEL NUMBER _____

SERIAL NUMBER _____

ENGINE MODEL _____

SERIAL NUMBER _____